

I claim:

1. A toothpaste formulation comprising d-limonene and one or more base components suitable for use as toothpaste.
2. The toothpaste formulation of claim 1, wherein said d-limonene comprises from about 10 to about 40% of said formulation.
3. The toothpaste formulation of claim 2, wherein said d-limonene comprises from about 15 to about 25% of said formulation.
4. The toothpaste formulation of claim 1, wherein said d-limonene has a purity of at least 98.5%.
5. The toothpaste formulation of claim 4, wherein said d-limonene comprises from about 10 to about 40% of said formulation.
6. The toothpaste formulation of claim 5, wherein said d-limonene comprises from about 15 to about 25% of said formulation.
7. The toothpaste formulation of claim 1, further including calcium and a magnesium salt.
8. The toothpaste formulation of claim 4, further including calcium and a magnesium salt.
9. A toothpaste formulation comprising d-limonene, a polyol, water, silica, glycerin, a surfactant, and a binder.
10. The toothpaste formulation of claim 9, wherein said d-limonene has a purity of at least 98.5%.

11. The toothpaste formulation of claim 9, wherein said d-limonene comprises from about 10 to about 40% of said formulation.
12. The toothpaste formulation of claim 11, wherein said d-limonene comprises from about 15 to about 25% of said formulation.
13. A mouthwash formulation comprising d-limonene, water, a surfactant, a polyol, and a flavoring agent.
14. The mouthwash formulation of claim 13, wherein said d-limonene has a purity of at least 98.5%.
15. The mouthwash formulation of claim 14, wherein said d-limonene comprises from about 5 to about 15% of said formulation.
16. A method for inhibiting the growth or killing bacteria within the oral cavity of an animal, said method comprising administering a therapeutically effective amount of a formulation comprising d-limonene within the oral cavity for a time sufficient to effectively eradicate said bacteria.
17. The method of claim 16, wherein said d-limonene has a purity of at least 98.5%.
18. The method of claim 1, wherein said bacteria are selected from the group of *Porphyromonas gingivalis*, *Strep. mutans*, *Strep. pyogenes*, *Bacteroides* species, *Actinobacillus action mycetemcomitons*, *Prevotella intermedia*, *Fusobacterium nucleatum*, *Campylobacter rectus*, *Eikenella corrodens*, *Peptostreptoloccus micros*, *Selenomonas sp.*, *Eubacterium sp.*, *Streptococcus species*, *Spirochetes treponema denticola*, and *Treponema pallidum*.
19. The method of claim 18, wherein said d-limonene has a purity of at least 98.5%.

20. A method for treating periodontal disease and preventing tooth decay, said method comprising applying an effective amount of the toothpaste formulation recited in claim 1 to an animal's teeth and gums for a time sufficient to remove, kill, or inhibit the growth of pathogens responsible causing said periodontal disease and tooth decay.
21. The method of claim 20, wherein said toothpaste formulation comprises from about 10% to about 40% of d-limonene.
22. The method of claim 21, wherein said d-limonene has a purity of at least 98.5%.
23. The method of claim 20, wherein said toothpaste formulation comprises from about 15% to about 25% of d-limonene.
24. The method of claim 23, wherein said d-limonene has a purity of at least 98.5%.